

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for the formation of a laminated circuit ~~having passive components therein,~~ comprising ~~the steps of:~~

- a) using a software in a computer to design a laminated circuit comprised of electrically insulative substrates, electric circuits, and passive components;
- b) recording the circuit layout of said laminated circuit into a data file subject to a predetermined format;
- c) inputting said data file into a laminated circuit forming apparatus comprised of a main control unit, a platform, an insulative material sprayer, a conductive material sprayer, an impedance material sprayer, and a driving unit;
- d) operating the main control unit of said laminated circuit forming apparatus to convert the inputted data file into sequential control signals to drive said driving unit, causing said driving unit to move said platform, said insulative

material sprayer, said conductive material sprayer, and said impedance material sprayer relative to one another, and to drive said insulative material sprayer, said conductive material sprayer, and said impedance material sprayer to eject respective fluid insulative material, fluid conductive material and fluid impedance material onto said platform at different times and locations subject to said sequential control signals, ~~forming~~ to form the desired laminated circuit having an insulative body and electric circuits and ~~passive components~~ embedded in the insulative body.

2. (currently amended) The method as defined in claim 1, wherein said laminated circuit is comprised of at least two laminated flat circuit layers, said flat circuit layers each comprising an electrically insulative substrate having a bottom side and a top side, and the ~~components~~ electric circuits and ~~passive components~~ embedded in the bottom side of the electrically insulative substrate, the electric circuits of one flat circuit layer in a lower side of said laminated circuit having protruded connecting portions extended to the top side of the respective electrically insulative substrate and connected to the circuits of the flat

circuit layer above; said laminated circuit forming apparatus is controlled to form the flat circuit layers of said laminated circuit from a bottom side toward a top side layer by layer in the sequence of forming the circuits and ~~passive components~~ for one flat circuit layer and then forming the electrically insulative substrate for the respective flat circuit layer.

3. (currently amended) The method as defined in claim 1, wherein said laminated circuit is comprised of at least two laminated flat circuit layers, said flat circuit layers each comprising an electrically insulative substrate having a bottom side and a top side, and the electric circuits and ~~passive components~~ embedded in the electrically insulative substrate in flush with the top and bottom sides of the electrically insulative substrate, the electric circuits of one flat circuit layer being connected to the electric circuits of another flat circuit layer at predetermined coordinates; said laminated circuit forming apparatus is controlled to form the flat circuit layers of said laminated circuit from a bottom side toward a top side layer by layer.

4. (currently amended) The method as defined in claim 1, wherein said laminated circuit has said circuits ~~or said passive components~~ protruded over a top surface thereof.

5. (currently amended) The method as defined in claim 1, wherein said insulative material sprayer is controlled to eject ~~fluid~~an engineering plastics plastic in fluid state to form the electrically insulative substrate for each flat circuit layer of said laminated circuit.

6. (original) The method as defined in claim 1, wherein said conductive material sprayer is controlled to eject fluid tin silver alloy to form said electric circuits in said laminated circuit.

7. (original) The method as defined in claim 1, wherein said impedance material sprayer is controlled to eject fluid graphite to form said passive components in said laminated circuit.

8. (original) The method as defined in claim 1, wherein said impedance material sprayer is controlled to eject different concentrations of fluid impedance material to form resistors of different impedance value in said laminated circuit.

9. (original) The method as defined in claim 1, wherein said impedance material sprayer, said insulative material sprayer, and said conductive material sprayer are controlled to eject different concentrations of fluid

impedance material, fluid insulative material, and fluid conductive material to form inductors of different impedance value in said laminated circuit.

10. (original) The method as defined in claim 1, wherein said impedance material sprayer, said insulative material sprayer, and said conductive material sprayer are controlled to eject different concentrations of fluid impedance material, fluid insulative material, and fluid conductive material to form capacitors of different capacitance value in said laminated circuit.

11-16. (canceled)

17. (new) A method for the formation of a laminated circuit having impedance components therein, comprising:

- a) using a software in a computer to design a laminated circuit comprised of electrically insulative substrates, electric circuits, and impedance components;
- b) recording the circuit layout of said laminated circuit into a data file subject to a predetermined format;
- c) inputting said data file into a laminated circuit forming apparatus comprised of a main control unit, a platform, an insulative material sprayer,

a conductive material sprayer, an impedance material sprayer, and a driving unit;

- d) operating the main control unit of said laminated circuit forming apparatus to convert the inputted data file into sequential control signals to drive said driving unit, causing said driving unit to move said platform, said insulative material sprayer, said conductive material sprayer, and said impedance material sprayer relative to one another, and to drive said insulative material sprayer, said conductive material sprayer, and said impedance material sprayer to eject respective fluid insulative material, fluid conductive material and fluid impedance material onto said platform at different times and locations subject to said sequential control signals to form the desired laminated circuit having an insulative body and electric circuits and impedance components embedded in the insulative body.

18. (new) The method as defined in claim 17, wherein said laminated circuit is comprised of at least two laminated flat circuit layers, said flat circuit layers each comprising an electrically insulative substrate having a

bottom side and a top side, and the electric circuits and impedance components embedded in the bottom side of the electrically insulative substrate, the electric circuits of one flat circuit layer in a lower side of said laminated circuit having protruded connecting portions extended to the top side of the respective electrically insulative substrate and connected to the circuits of the flat circuit layer above; said laminated circuit forming apparatus is controlled to form the flat circuit layers of said laminated circuit from a bottom side toward a top side layer by layer in the sequence of forming the circuits and impedance components for one flat circuit layer and then forming the electrically insulative substrate for the respective flat circuit layer.

19. (new) The method as defined in claim 17, wherein said laminated circuit is comprised of at least two laminated flat circuit layers, said flat circuit layers each comprising an electrically insulative substrate having a bottom side and a top side, and the electric circuits and impedance components embedded in the electrically insulative substrate in flush with the top and bottom sides of the electrically insulative substrate, the electric circuits of one flat circuit layer being connected to the electric circuits of another flat circuit layer at predetermined coordinates; said laminated circuit forming apparatus is

controlled to form the flat circuit layers of said laminated circuit from a bottom side toward a top side layer by layer.

20. (new) The method as defined in claim 17, wherein said laminated circuit has said circuits or said impedance components protruded over a top surface thereof.

21. (new) The method as defined in claim 17, wherein said insulative material sprayer is controlled to eject an engineering plastic in a fluid state to form the electrically insulative substrate for each flat circuit layer of said laminated circuit.

22. (new) The method as defined in claim 17, wherein said conductive material sprayer is controlled to eject fluid tin silver alloy to form said electric circuits in said laminated circuit.

23. (new) The method as defined in claim 17, wherein said impedance material sprayer is controlled to eject fluid graphite to form said passive components in said laminated circuit.

24. (new) The method as defined in claim 17, wherein said impedance material sprayer is controlled to eject different concentrations of fluid impedance material to form



resistors of different impedance value in said laminated circuit.

25. (new) The method as defined in claim 17, wherein said impedance material sprayer, said insulative material sprayer, and said conductive material sprayer are controlled to eject different concentrations of fluid impedance material, fluid insulative material, and fluid conductive material to form inductors of different impedance value in said laminated circuit.

26. (new) The method as defined in claim 17, wherein said impedance material sprayer, said insulative material sprayer, and said conductive material sprayer are controlled to eject different concentrations of fluid impedance material, fluid insulative material, and fluid conductive material to form capacitors of different capacitance value in said laminated circuit.